



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1459
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|--------------------------|------------------------------|------------------|
| 09/900,963 | 07/10/2001 | Claudine Guerin-Marchand | 010830-118 | 8667 |
| 21839 | 7590 | 04/04/2006 | | |
| BUCHANAN INGERSOLL PC (INCLUDING BURNS, DOANE, SWECKER & MATHIS) POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404 | | | EXAMINER LUCAS, ZACHARIAH | |
| | | | ART UNIT 1648 | PAPER NUMBER |

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES DEPARTMENT OF COMMERCE

U.S. Patent and Trademark Office

Address : COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450

| | | | |
|---------------------------------|-------------|---|---------------------|
| APPLICATION NO./ CONTROL NO. | FILING DATE | FIRST NAMED INVENTOR / PATENT IN REEXAMINATION | ATTORNEY DOCKET NO. |
|---------------------------------|-------------|---|---------------------|

| |
|----------|
| EXAMINER |
|----------|

| | |
|----------|-------|
| ART UNIT | PAPER |
|----------|-------|

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

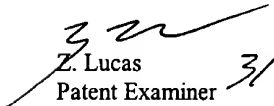
This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth below or on the attached Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures. **Neither the paper copy, nor the computer readable form (CRF) of the sequence listings complies with the sequence rules for the reasons indicated in the attached RAW SEQUENCE LISTING ERROR REPORT.**

Applicant is given ONE MONTH, or THIRTY DAYS, whichever is longer, from the mailing date of this letter within which to comply with the sequence rules, 37 CFR 1.821 - 1.825. Failure to comply with these requirements will result in ABANDONMENT of the application under 37 CFR 1.821(g). Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). In no case may an applicant extend the period for reply beyond the SIX MONTH statutory period. Direct the reply to the undersigned. Applicant is requested to return a copy of the attached Notice to Comply with the reply.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachariah Lucas whose telephone number is 571-272-0905. The examiner can normally be reached on Monday-Friday, 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Housel can be reached on 571-272-0902. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Z. Lucas
Patent Examiner

3/31/06

Note- attached Raw Sequence
Listing Error Report

STIC Biotechnology Systems Branch

RAW SEQUENCE LISTING **ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/900,963 B
Source: JFW/6
Date Processed by STIC: 12/15/2005

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER VERSION 4.2.2 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):
U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/24/05

Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER:

09/900, 963B

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics
 Wrapped Aminos The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2 Invalid Line Length The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 Misaligned Amino
 Numbering The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 Non-ASCII The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 Variable Length Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6 PatentIn 2.0
 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 Skipped Sequences
 (OLD RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
 (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
 (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 This sequence is intentionally skipped

 Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8 Skipped Sequences
 (NEW RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence.
 <210> sequence id number
 <400> sequence id number
 000
- 9 Use of n's or Xaa's
 (NEW RULES) Use of n's and/or Xaa's have been detected in the Sequence Listing.
 Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
 In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 10 Invalid <213>
 Response Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 11 Use of <220> Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.
 Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
 (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12 PatentIn 2.0
 "bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 Misuse of n/Xaa "n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid



IFW16

RAW SEQUENCE LISTING DATE: 12/15/2005
 PATENT APPLICATION: US/09/900,963B TIME: 08:47:31

Input Set : N:\Crf4\Refhold\09_folder\I900963B.raw
 Output Set: N:\CRF4\12152005\I900963B.raw

1 <110> APPLICANT: GUERIN-MARCHAND, CLAUDINE
 2 DRUILHE, PIERRE
 3 <120> TITLE OF INVENTION: PEPTIDE SEQUENCES SPECIFIC FOR THE HEPATIC STAGES OF P.
 FALCIPARUM
 4 BEARING EPITOPES CAPABLE OF STIMULATING THE T LYMPHOCYTES
 5 <130> FILE REFERENCE: 010830-118
 C--> 6 <140> CURRENT APPLICATION NUMBER: US/09/900,963B
 7 <141> CURRENT FILING DATE: 2001-07-10
 8 <150> PRIOR APPLICATION NUMBER: 08/098,327
 9 <151> PRIOR FILING DATE: 1993-11-24
 10 <150> PRIOR APPLICATION NUMBER: PCT/FR92/00104
 11 <151> PRIOR FILING DATE: 1992-02-05
 12 <150> PRIOR APPLICATION NUMBER: FR 91 01286
 13 <151> PRIOR FILING DATE: 1991-02-05
 14 <160> NUMBER OF SEQ ID NOS: 47
 15 <170> SOFTWARE: PatentIn Ver. 3.3

pp 1-2, S, T
 Does Not Comply
 Corrected Diskette Needed

ERRORRED SEQUENCES

768 <210> SEQ ID NO: 37
 769 <211> LENGTH: 954
 770 <212> TYPE: DNA
 771 <213> ORGANISM: Plasmodium falciparum
 772 <221> NAME/KEY: CDS
 773 <222> LOCATION: (1)..(954)
 E--> 774 <400> SEQUENCE: 37
 775 atg aaa cat att ttg tac ata tca ttt tac ttt atc ctt gtt aat tta 48
 776 Met Lys His Ile Leu Tyr Ile Ser Phe Tyr Phe Ile Leu Val Asn Leu
 777 1 5 10 15
 778 ttg ata ttt cat ata aat gga aag ata ata aag aat tct gaa aaa gat 96
 779 Leu Ile Phe His Ile Asn Gly Lys Ile Ile Lys Asn Ser Glu Lys Asp
 780 20 25 30
 781 gaa atc ata aaa tct aac ttg aga agt ggt tct tca aat tct agg aat 144
 782 Glu Ile Ile Lys Ser Asn Leu Arg Ser Gly Ser Ser Asn Ser Arg Asn
 783 35 40 45
 784 cga ata aat gag gaa aat cac gag aag aaa cac gtt tta tct cat aat 192
 785 Arg Ile Asn Glu Glu Asn His Glu Lys Lys His Val Leu Ser His Asn
 786 50 55 60
 787 tca tat gag aaa act aaa aat aat gaa aat aat aaa ttt ttc gat aag 240
 788 Ser Tyr Glu Lys Thr Lys Asn Asn Glu Asn Asn Lys Phe Phe Asp Lys
 789 65 70 75 80
 790 gat aaa gag tta acg atg tct aat gta aaa aat gtg tca caa aca aat 288
 791 Asp Lys Glu Leu Thr Met Ser Asn Val Lys Asn Val Ser Gln Thr Asn

*Insert
 C 2207 whenever C2217, C2227
 or C2237 is
 Sharon
 C2207
 never
 has a
 response
 it is a
 header
 only.*

RAW SEQUENCE LISTING

DATE: 12/15/2005

PATENT APPLICATION: US/09/900,963B

TIME: 08:47:31

Input Set : N:\Crf4\Refhold\09_folder\I900963B.raw

Output Set: N:\CRF4\12152005\I900963B.raw

```

792                85                90                95
793    ttc aaa agt ctt tta aga aat ctt ggt gtt tca gag aat ata ttc ctt    336
794    Phe Lys Ser Leu Leu Arg Asn Leu Gly Val Ser Glu Asn Ile Phe Leu
795                100                105                110
796    aaa gaa aat aaa tta aat aag gaa ggg aaa tta att gaa cac ata ata    384
797    Lys Glu Asn Lys Leu Asn Lys Glu Gly Lys Leu Ile Glu His Ile Ile
798                115                120                125
799    aat gat gat gac gat aaa aaa aaa tat att aaa ggg caa gac gaa aac    432
800    Asn Asp Asp Asp Asp Lys Lys Lys Tyr Ile Lys Gly Gln Asp Glu Asn
801                130                135                140
802    aga caa gaa gat ctt gaa gaa aaa gca gct aaa gaa aag tta cag ggg    480
803    Arg Gln Glu Asp Leu Glu Glu Lys Ala Ala Lys Glu Lys Leu Gln Gly
804                145                150                155                160
805    caa caa agc gat tca gaa caa gag aga cgt gct aaa gaa aag ttg caa    528
806    Gln Gln Ser Asp Ser Glu Gln Glu Arg Arg Ala Lys Glu Lys Leu Gln
807                165                170                175
808    gaa caa caa agc gat tta gaa caa gag aga ctt gct aaa gaa aag ttg    576
809    Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Leu Ala Lys Glu Lys Leu
810                180                185                190
811    caa gaa caa caa agc gat tta gaa caa gag aga cgt gct aaa gaa aag    624
812    Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala Lys Glu Lys
813                195                200                205
814    ttg caa gaa caa caa agc gat tta gaa caa gag aga ctt gct aaa gaa    672
815    Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Leu Ala Lys Glu
816                210                215                220
817    aag ttg caa gaa caa caa agc gat tta gaa caa gag aga cgt gct aaa    720
818    Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala Lys
819                225                230                235                240
820    gaa aag ttg caa gaa caa caa agc gat tta gaa caa gag aga cgt gct    768
821    Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala
822                245                250                255
823    aaa gaa aag ttg caa gaa caa caa agc gat tta gaa caa gag aga ctt    816
824    Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Leu
825                260                265                270
826    gct aaa gaa aag tta caa gag cag caa agc gat tta gaa caa gat aga    864
827    Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Asp Arg
828                275                280                285
829    ctt gct aaa gaa aag ttg caa gaa caa caa agc gat tta gaa caa gag    912
830    Leu Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu
831                290                295                300
832    aga cgt gct aaa gaa agg ttg caa gaa caa caa agc gat tta    954
833    Arg Arg Ala Lys Glu Arg Leu Gln Glu Gln Gln Ser Asp Leu
834                305                310                315

927 <210> SEQ ID NO: 42
928 <211> LENGTH: 1494
929 <212> TYPE: DNA
930 <213> ORGANISM: Plasmodium falciparum
931 <221> NAME/KEY: CDS
932 <222> LOCATION: (1)..(1494)

```

Insert
> <220>

RAW SEQUENCE LISTING

DATE: 12/15/2005

PATENT APPLICATION: US/09/900,963B

TIME: 08:47:31

Input Set : N:\Crf4\Refhold\09_folder\I900963B.raw

Output Set: N:\CRF4\12152005\I900963B.raw

E--> 933 <400> SEQUENCE: 42

```

934   caa gaa caa caa agc gat cta gaa caa gag aga cgt gct aaa gaa aag   48
935   Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala Lys Glu Lys
936       1           5           10          15
937   ttg caa gaa caa caa agc gat tta gaa caa gat aga ctt gct aaa gaa   96
938   Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Asp Arg Leu Ala Lys Glu
939       20           25           30
940   aag tta caa gag cag caa agc gat tta gaa caa gag aga ctt gct aaa   144
941   Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Leu Ala Lys
942       35           40           45
943   gaa aag ttg caa gaa caa caa agc gat cta gaa caa gag aga cgt gct   192
944   Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala
945       50           55           60
946   aaa gaa aag ttg caa gaa caa caa agc gat tta gaa caa gag aga cgt   240
947   Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg
948       65           70           75           80
949   gct aaa gaa aag ttg caa gaa caa caa agc gat tta gaa caa gat aga   288
950   Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Asp Arg
951       85           90           95
952   ctt gct aaa gaa aag tta caa gag cag caa agc gat tta gaa caa gag   336
953   Leu Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu
954       100          105          110
955   aga cgt gct aaa gaa aag ttg caa gaa caa caa agc gat tta gaa caa   384
956   Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln
957       115          120          125
958   gag aga cgt gct aaa gaa aag ttg caa gaa caa caa agc gat tta gaa   432
959   Glu Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu
960       130          135          140
961   caa gag aga ctt gct aaa gaa aag ttg caa gaa caa caa agc gat tta   480
962   Gln Glu Arg Leu Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu
963       145          150          155          160
964   gaa caa gag aga cgt gct aaa gaa aag ttg caa gaa caa caa agc gat   528
965   Glu Gln Glu Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp
966       165          170          175
967   tta gaa caa gag aga cgt gct aaa gaa aag ttg caa gaa caa caa agc   576
968   Leu Glu Gln Glu Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser
969       180          185          190
970   gat tta gaa caa gag aga cgt gct aaa gaa aag ttg caa gag cag caa   624
971   Asp Leu Glu Gln Glu Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln
972       195          200          205
973   aga gat tta gaa caa agg aag gct gat acg aaa aaa aat tta gaa aga   672
974   Arg Asp Leu Glu Gln Arg Lys Ala Asp Thr Lys Lys Asn Leu Glu Arg
975       210          215          220
976   aaa aag gaa cat gga gat ata tta gca gag gat tta tat ggt cgt tta   720
977   Lys Lys Glu His Gly Asp Ile Leu Ala Glu Asp Leu Tyr Gly Arg Leu
978       225          230          235          240
979   gaa ata cca gct ata gaa ctt cca tca gaa aat gaa cgt gga tat tat   768
980   Glu Ile Pro Ala Ile Glu Leu Pro Ser Glu Asn Glu Arg Gly Tyr Tyr
981       245          250          255

```

RAW SEQUENCE LISTING

DATE: 12/15/2005

PATENT APPLICATION: US/09/900,963B

TIME: 08:47:31

Input Set : N:\Crf4\Refhold\09_folder\I900963B.raw

Output Set: N:\CRF4\12152005\I900963B.raw

```

982   ata cca cat caa tct tct tta cct cag gac aac aga ggg aat agt aga   816
983   Ile Pro His Gln Ser Ser Leu Pro Gln Asp Asn Arg Gly Asn Ser Arg
984           260           265           270
985   gat tcc aag gaa ata tct ata ata gaa aaa aca aat aga gaa tct att   864
986   Asp Ser Lys Glu Ile Ser Ile Ile Glu Lys Thr Asn Arg Glu Ser Ile
987           275           280           285
988   aca aca aat gtt gaa gga cga agg gat ata cat aaa gga cat ctt gaa   912
989   Thr Thr Asn Val Glu Gly Arg Arg Asp Ile His Lys Gly His Leu Glu
990           290           295           300
991   gaa aag aaa gat ggt tca ata aaa cca gaa caa aaa gaa gat aaa tct   960
992   Glu Lys Lys Asp Gly Ser Ile Lys Pro Glu Gln Lys Glu Asp Lys Ser
993   305           310           315           320
994   gct gac ata caa aat cat aca tta gag aca gta aat att tct gat gtt   1008
995   Ala Asp Ile Gln Asn His Thr Leu Glu Thr Val Asn Ile Ser Asp Val
996           325           330           335
997   aat gat ttt caa ata agt aag tat gag gat gaa ata agt gct gaa tat   1056
998   Asn Asp Phe Gln Ile Ser Lys Tyr Glu Asp Glu Ile Ser Ala Glu Tyr
999           340           345           350
1000   gac gat tca tta ata gat gaa gaa gaa gat gat gaa gac tta gac gaa   1104
1001   Asp Asp Ser Leu Ile Asp Glu Glu Glu Asp Asp Glu Asp Leu Asp Glu
1002           355           360           365
1003   ttt aag cct att gtg caa tat gac aat ttc caa gat gaa gaa aac ata   1152
1004   Phe Lys Pro Ile Val Gln Tyr Asp Asn Phe Gln Asp Glu Glu Asn Ile
1005           370           375           380
1006   gga att tat aaa gaa cta gaa gat ttg ata gag aaa aat gaa aat tta   1200
1007   Gly Ile Tyr Lys Glu Leu Glu Asp Leu Ile Glu Lys Asn Glu Asn Leu
1008           385           390           395           400
1009   gat gat tta gat gaa gga ata gaa aaa tca tca gaa gaa tta tct gaa   1248
1010   Asp Asp Leu Asp Glu Gly Ile Glu Lys Ser Ser Glu Glu Leu Ser Glu
1011           405           410           415
1012   gaa aaa ata aaa aaa gga aag aaa tat gaa aaa aca aag gat aat aat   1296
1013   Glu Lys Ile Lys Lys Gly Lys Lys Tyr Glu Lys Thr Lys Asp Asn Asn
1014           420           425           430
1015   ttt aaa cca aat gat aaa agt ttg tat gat gag cat att aaa aaa tat   1344
1016   Phe Lys Pro Asn Asp Lys Ser Leu Tyr Asp Glu His Ile Lys Lys Tyr
1017           435           440           445
1018   aaa aat gat aag cag gtt aat aag gaa aag gaa aaa ttc ata aaa tca   1392
1019   Lys Asn Asp Lys Gln Val Asn Lys Glu Lys Glu Lys Phe Ile Lys Ser
1020           450           455           460
1021   ttg ttt cat ata ttt gac gga gac aat gaa att tta cag atc gtg gat   1440
1022   Leu Phe His Ile Phe Asp Gly Asp Asn Glu Ile Leu Gln Ile Val Asp
1023           465           470           475           480
1024   gag tta tct gaa gat ata act aaa tat ttt atg aaa cta taa aag gtt   1488
1025   Glu Leu Ser Glu Asp Ile Thr Lys Tyr Phe Met Lys Leu
1026           485           490
1027   ata tat   1494
1111 <210> SEQ ID NO: 46
1112 <211> LENGTH: 1494
1113 <212> TYPE: DNA

```


RAW SEQUENCE LISTING

DATE: 12/15/2005

PATENT APPLICATION: US/09/900,963B

TIME: 08:47:31

Input Set : N:\Crf4\Refhold\09_folder\I900963B.raw

Output Set: N:\CRF4\12152005\I900963B.raw

1114 <213> ORGANISM: Plasmodium falciparum
 1115 <221> NAME/KEY: CDS
 1116 <222> LOCATION: (1)..(1494)
 B--> 1117 <400> SEQUENCE: 46

Insert
L2207

```

1118   caa gaa caa caa agc gat cta gaa caa gag aga cgt gct aaa gaa aag   48
1119   Gln Glu Gln Gln Ser Asp Leu Glu Gln Arg Arg Ala Lys Glu Lys
1120       1           5           10           15
1121   ttg caa gaa caa caa agc gat tta gaa caa gat aga ctt gct aaa gaa   96
1122   Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Asp Arg Leu Ala Lys Glu
1123       20           25           30
1124   aag tta caa gag cag caa agc gat tta gaa caa gag aga ctt gct aaa   144
1125   Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Leu Ala Lys
1126       35           40           45
1127   gaa aag ttg caa gaa caa caa agc gat cta gaa caa gag aga cgt gct   192
1128   Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala
1129       50           55           60
1130   aaa gaa aag ttg caa gaa caa caa agc gat tta gaa caa gag aga cgt   240
1131   Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg
1132       65           70           75           80
1133   gct aaa gaa aag ttg caa gaa caa caa agc gat tta gaa caa gat aga   288
1134   Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Asp Arg
1135       85           90           95
1136   ctt gct aaa gaa aag tta caa gag cag caa agc gat tta gaa caa gag   336
1137   Leu Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu
1138       100          105          110
1139   aga cgt gct aaa gaa aag ttg caa gaa caa caa agc gat tta gaa caa   384
1140   Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln
1141       115          120          125
1142   gag aga cgt gct aaa gaa aag ttg caa gaa caa caa agc gat tta gaa   432
1143   Glu Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu
1144       130          135          140
1145   caa gag aga ctt gct aaa gaa aag ttg caa gaa caa caa agc gat tta   480
1146   Gln Glu Arg Leu Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu
1147       145          150          155          160
1148   gaa caa gag aga cgt gct aaa gaa aag ttg caa gaa caa caa agc gat   528
1149   Glu Gln Glu Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp
1150       165          170          175
1151   tta gaa caa gag aga cgt gct aaa gaa aag ttg caa gaa caa caa agc   576
1152   Leu Glu Gln Glu Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser
1153       180          185          190
1154   gat tta gaa caa gag aga cgt gct aaa gaa aag ttg caa gag cag caa   624
1155   Asp Leu Glu Gln Glu Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln
1156       195          200          205
1157   aga gat tta gaa caa agg aag gct gat acg aaa aaa aat tta gaa aga   672
1158   Arg Asp Leu Glu Gln Arg Lys Ala Asp Thr Lys Lys Asn Leu Glu Arg
1159       210          215          220
1160   aaa aag gaa cat gga gat ata tta gca gag gat tta tat ggt cgt tta   720
1161   Lys Lys Glu His Gly Asp Ile Leu Ala Glu Asp Leu Tyr Gly Arg Leu
1162       225          230          235          240

```

RAW SEQUENCE LISTING

DATE: 12/15/2005

PATENT APPLICATION: US/09/900,963B

TIME: 08:47:31

Input Set : N:\CrF4\Refhold\09_folder\I900963B.raw

Output Set: N:\CRF4\12152005\I900963B.raw

| | | |
|------|---|------|
| 1163 | gaa ata cca gct ata gaa ctt cca tca gaa aat gaa cgt gga tat tat | 768 |
| 1164 | Glu Ile Pro Ala Ile Glu Leu Pro Ser Glu Asn Glu Arg Gly Tyr Tyr | |
| 1165 | 245 250 255 | |
| 1166 | ata cca cat caa tct tct tta cct cag gac aac aga ggg aat agt aga | 816 |
| 1167 | Ile Pro His Gln Ser Ser Leu Pro Gln Asp Asn Arg Gly Asn Ser Arg | |
| 1168 | 260 265 270 | |
| 1169 | gat tcc aag gaa ata tct ata ata gaa aaa aca aat aga gaa tct att | 864 |
| 1170 | Asp Ser Lys Glu Ile Ser Ile Ile Glu Lys Thr Asn Arg Glu Ser Ile | |
| 1171 | 275 280 285 | |
| 1172 | aca aca aat gtt gaa gga cga agg gat ata cat aaa gga cat ctt gaa | 912 |
| 1173 | Thr Thr Asn Val Glu Gly Arg Arg Asp Ile His Lys Gly His Leu Glu | |
| 1174 | 290 295 300 | |
| 1175 | gaa aag aaa gat ggt tca ata aaa cca gaa caa aaa gaa gat aaa tct | 960 |
| 1176 | Glu Lys Lys Asp Gly Ser Ile Lys Pro Glu Gln Lys Glu Asp Lys Ser | |
| 1177 | 305 310 315 320 | |
| 1178 | gct gac ata caa aat cat aca tta gag aca gta aat att tct gat gtt | 1008 |
| 1179 | Ala Asp Ile Gln Asn His Thr Leu Glu Thr Val Asn Ile Ser Asp Val | |
| 1180 | 325 330 335 | |
| 1181 | aat gat ttt caa ata agt aag tat gag gat gaa ata agt gct gaa tat | 1056 |
| 1182 | Asn Asp Phe Gln Ile Ser Lys Tyr Glu Asp Glu Ile Ser Ala Glu Tyr | |
| 1183 | 340 345 350 | |
| 1184 | gac gat tca tta ata gat gaa gaa gaa gat gat gaa gac tta gac gaa | 1104 |
| 1185 | Asp Asp Ser Leu Ile Asp Glu Glu Glu Asp Asp Glu Asp Leu Asp Glu | |
| 1186 | 355 360 365 | |
| 1187 | ttt aag cct att gtg caa tat gac aat ttc caa gat gaa gaa aac ata | 1152 |
| 1188 | Phe Lys Pro Ile Val Gln Tyr Asp Asn Phe Gln Asp Glu Glu Asn Ile | |
| 1189 | 370 375 380 | |
| 1190 | gga att tat aaa gaa cta gaa gat ttg ata gag aaa aat gaa aat tta | 1200 |
| 1191 | Gly Ile Tyr Lys Glu Leu Glu Asp Leu Ile Glu Lys Asn Glu Asn Leu | |
| 1192 | 385 390 395 400 | |
| 1193 | gat gat tta gat gaa gga ata gaa aaa tca tca gaa gaa tta tct gaa | 1248 |
| 1194 | Asp Asp Leu Asp Glu Gly Ile Glu Lys Ser Ser Glu Glu Leu Ser Glu | |
| 1195 | 405 410 415 | |
| 1196 | gaa aaa ata aaa aaa gga aag aaa tat gaa aaa aca aag gat aat aat | 1296 |
| 1197 | Glu Lys Ile Lys Lys Gly Lys Lys Tyr Glu Lys Thr Lys Asp Asn Asn | |
| 1198 | 420 425 430 | |
| 1199 | ttt aaa cca aat gat aaa agt ttg tat gat gag cat att aaa aaa tat | 1344 |
| 1200 | Phe Lys Pro Asn Asp Lys Ser Leu Tyr Asp Glu His Ile Lys Lys Tyr | |
| 1201 | 435 440 445 | |
| 1202 | aaa aat gat aag cag gtt aat aag gaa aag gaa aaa ttc ata aaa tca | 1392 |
| 1203 | Lys Asn Asp Lys Gln Val Asn Lys Glu Lys Glu Lys Phe Ile Lys Ser | |
| 1204 | 450 455 460 | |
| 1205 | ttg ttt cat ata ttt gac gga gac aat gaa att tta cag atc gtg gat | 1440 |
| 1206 | Leu Phe His Ile Phe Asp Gly Asp Asn Glu Ile Leu Gln Ile Val Asp | |
| 1207 | 465 470 475 480 | |
| 1208 | gag tta tct gaa gat ata act aaa tat ttt atg aaa cta taa aag gtt | 1488 |
| 1209 | Glu Leu Ser Glu Asp Ile Thr Lys Tyr Phe Met Lys Leu | |
| 1210 | 485 490 | |
| 1211 | ata tat | 1494 |

09/900, 963 B

pg-7

<210> 1
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Formula Sequence

<220>
<221> VARIANT
<222> 8
<223> Xaa = Glu or Gly

<400> 1
Leu Ala Lys Glu Lys Leu Gln Xaa Gln Gln Ser Asp Leu Glu Gln Glu
1 5 10 15
Arg

Insufficient Explanation.
Give source(s) of
genetic material
(Incident # on
Error Summary
Sheet).

The above is a sample
of global error

P41

Use of n and / or Xaa has been detected in the
Sequence Listing. Review the Sequence Listing
to ensure a corresponding explanation is present
in the <220> to <223> fields of each sequence
using n or Xaa.

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 12/15/2005
PATENT APPLICATION: US/09/900,963B TIME: 08:47:32

Input Set : N:\Crf4\Refhold\09_folder\I900963B.raw
Output Set: N:\CRF4\12152005\I900963B.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 3

VERIFICATION SUMMARY

DATE: 12/15/2005

PATENT APPLICATION: US/09/900,963B

TIME: 08:47:32

Input Set : N:\Crf4\Refhold\09_folder\I900963B.raw

Output Set: N:\CRF4\12152005\I900963B.raw

L:6 M:270 C: Current Application Number differs, Wrong Format
L:28 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:38 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:55 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:82 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:109 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:111 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:16
L:136 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:163 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:190 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0
L:244 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
L:271 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:298 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
L:300 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:16
L:325 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
L:352 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:354 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:16
L:379 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:406 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:433 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:460 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:487 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:489 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:16
L:774 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:37
L:933 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:42
L:1117 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:46